

- EITEN, G. 1963. Taxonomy and regional variation of *Oxalis* section *Corniculatae*. I. Introduction, keys and synopsis of species. *Am. Midl. Nat.* 69:257-309.
- GRAY, A. 1873. Notes on Compositae and characters of certain genera and species, etc. *Proc. Am. Acad.* 8:631-661.
- GREENE, E. L. 1895. Observations on Compositae. X. *Erythea* 3:107-115.
- . 1904. New plants from middle California. *Leafl. Bot. Obs. Crit.* 1:73-81.
- HALL, H. M. and F. E. CLEMENTS. 1923. The phylogenetic method in taxonomy. The North American species of *Artemisia*, *Chrysothamnus*, and *Atriplex*. Carnegie Inst. Publ. 326.
- SHARP, R. P. and J. H. BIRMAN. 1963. Additions to classical sequences of Pleistocene glaciation, Sierra Nevada, California. *Geol. Soc. Am. Bull.* 74:1079-1086.

A NEW SPECIES OF BRODIAEA FROM SAN CLEMENTE ISLAND, CALIFORNIA

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The island of San Clemente off the southern California coast is noted for its high number of endemics (Raven, 1963). A new species here reported raises the total number of endemics on San Clemente I. to eleven.

Brodiaea kinkiensis Niehaus, sp. nov. Planta ex cormo tunica fibrosa instructo; perianthii tubo 12 mm longo, 4-5 mm lato, basi rotundato, ejus segmentis patentibus 13-17 mm longis, eis exterioribus oblongis, interioribus obovatis; staminodia paulo involuta, 3 mm lata, 7 mm longa, apice cuspidata, erecta, a staminibus distantia; capsula oblonga; perianthii tubo demum haud fisso.

Corm with heavy fibrous outer coat; leaves linear, 2-4 dm long; scape 2-3 dm tall; pedicels 3-8 cm long; perianth-tube whitish with brown-purple midribs extending to tips of the segments, rounded at the base, 12 mm long and 4-5 mm wide; perianth-segments violet, 13-17 mm long, spreading at right angles to perianth-tube; outer segments oblong, inner ones obovate; staminodia slightly involute, 3 mm wide, 7 mm long, apically cuspidate, standing erect and well apart from stamens; filaments 1 mm long, anthers retuse, channeled on back, 4-5 mm long; capsule oblong; perianth-tube not splitting as capsule matures; chromosome number $2n = 32$.

Holotype. 0.5 mi W of Stone at junction of road to Stone with main island axis road, San Clemente I., Los Angeles Co., 1395 ft., April 3, 1965, T. F. Niehaus 407 (UC, 1200400).

Brodiaea kinkiensis is known at present only from San Clemente I. One previous and fragmentary collection was cited as *B. filifolia* Wats. by Hoover (1939) (*Murbarger* 219, UC). It is probable that *B. kinkien-*

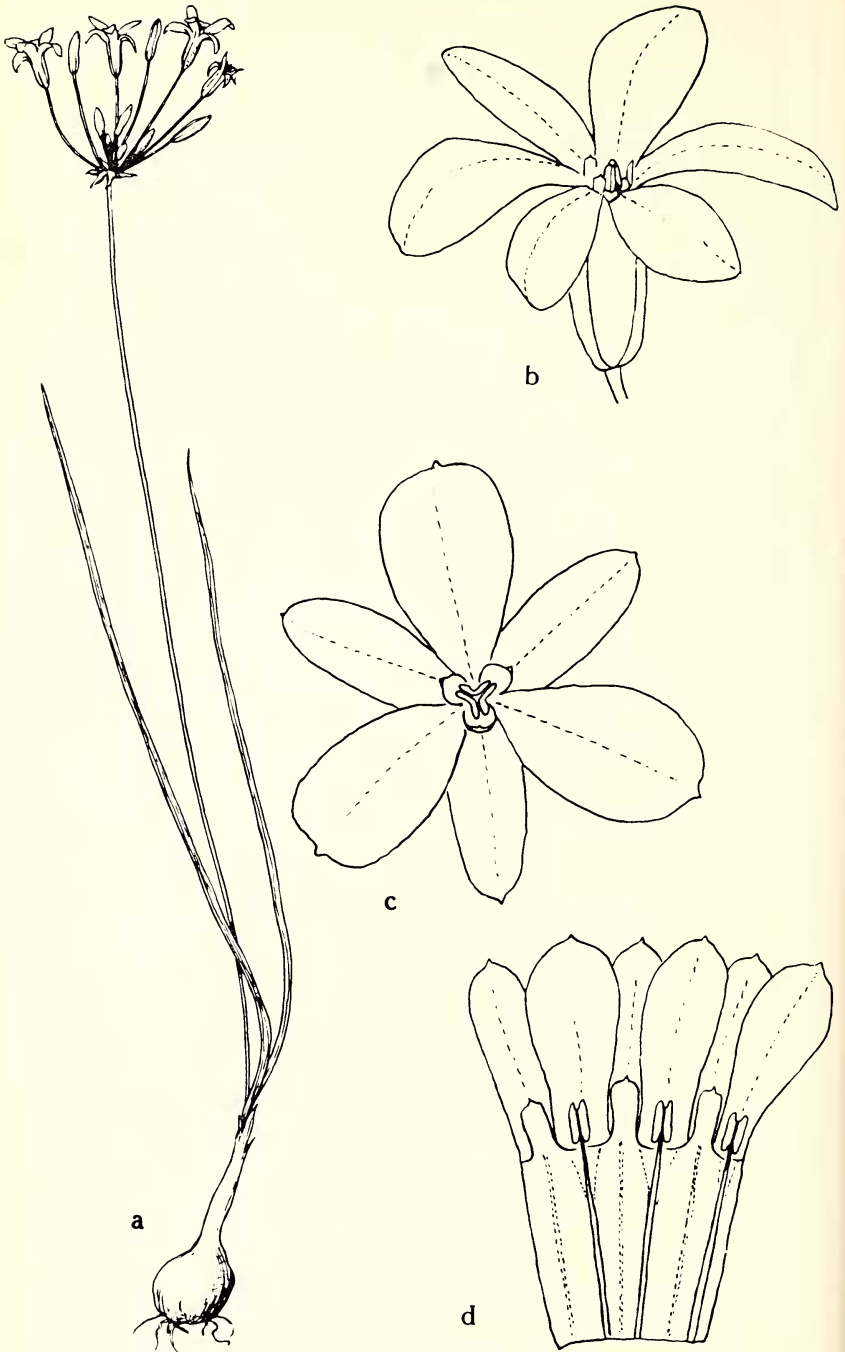


FIG. 1. *Brodiaea kinkiensis*: a, habit, $\times \frac{1}{3}$; b, individual flower, $\times 2$; c, overhead view, $\times 2$; d, interior arrangement, $\times 2$.

sis is most closely related to *B. filifolia*. *Brodiaea kinkiensis* may be distinguished from *B. filifolia* by the very coarse and thick fibrous outer coat of its corm, its longer perianth-tube (that of *B. filifolia* being 6–7 mm in length), and its erect cuspidate much wider staminodia (those of *B. filifolia* being much shorter and virtually obsolescent and capillary). Continued research on the probable relationships and on other questions is under way for the entire genus.

Brodiaea kinkiensis was collected by the author and Wayne Roderick, April 1–4, 1965, at which time it was in bud. Corms were grown at the University of California Botanic Garden where I ultimately obtained flowering specimens. This species was observed to be common in the clay flats on the mesa of the island from near Lemon Tank south to Boulder, a distance of about 4 miles. It undoubtedly occurs farther to the north and south along the mesa-top. A chromosome count of $2n = 32$ (Niehaus, 1965) was reported (as *B. filifolia*) for *B. kinkiensis*. This was previous to my having seen living material of the mainland species, *B. filifolia*, and having compared it with that growing on San Clemente Island. As of this date, *B. filifolia* now remains the only species of *Brodiaea* (as defined by Hoover) for which a chromosome count still remains to be made.

The specific epithet is based on the word “*kinki*,” the Gabrielino Indian name for San Clemente I. (Kroeber, 1925).

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LITERATURE CITED

- HOOPER, R. F. 1939. A revision of the genus *Brodiaea*. *Am. Midl. Nat.* 22:551–574.
KROEBER, A. L. 1925. *Handbook of the Indians of California*. Bureau Am. Ethnology, Smithsonian Inst., Bull. 78.
NIEHAUS, T. F. 1965. *In* Documented chromosome numbers of plants. *Madroño* 18:123.
RAVEN, P. H. 1963. A flora of San Clemente Island, California. *Aliso* 5:289–347.